SKRIPSI

FAKTOR RISIKO YANG BERHUBUNGAN DENGAN KEJADIAN KANKER SERVIKS DI RSUD SITI FATIMAH PROVINSI SUMATERA SELATAN TAHUN 2025

DIAN OKTARIA
PO7124225307

KEMENTERIAN KESEHATAN REPUBLIK INDONESIA
POLITEKNIK KESEHATAN PALEMBANG
PROGRAM STUDI SARJANA TERAPAN KEBIDANAN
TAHUN 2026

BAB I

PENDAHULUAN

A. Latar Belakang

World Health Organization (2025) menyatakan bahwa kanker serviks (*cervical cancer*) merupakan suatu kondisi kanker yang berkembang pada serviks (leher rahim), yaitu bagian bawah rahim yang membuka ke vagina yang umumnya disebabkan oleh infeksi yang menetap dengan jenis *human papillomavirus (HPV)* berisiko tinggi. Meskipun banyak infeksi *HPV* yang sembuh dengan sendirinya, sel-sel serviks dapat berubah menjadi abnormal dan akhirnya berkembang menjadi kanker. Kanker serviks berkembang akibat proses metaplasia epitel pada daerah sambungan skuamokolumnar (SSK), yaitu area transisi antara mukosa vagina dan mukosa kanalis servikalis yang bersifat rentan terhadap perubahan seluler patologis sehingga menjadi lokasi utama terjadinya transformasi neoplastik. Penyakit ini umumnya terjadi pada wanita rentang usia 35 hingga 55 tahun (Bosch et.al., 2002).

Kanker serviks (*cervical cancer*) merupakan salah satu kanker pada wanita yang termasuk masalah kesehatan masyarakat global dengan angka morbiditas dan mortalitas yang tinggi di dunia, khususnya di negara berpenghasilan rendah dan menengah (Wu et.al., 2025). Penyebab utama kanker serviks adalah infeksi persisten *Human Papillomavirus* tipe risiko tinggi seperti 16 dan 18 yang bertanggung jawab atas sebagian besar kasus kanker serviks secara global. Infeksi *HPV* umumnya ditularkan melalui hubungan seksual, sehingga perilaku seksual

berisiko menjadi salah satu determinan utama kejadian kanker serviks (*American Cancer Society*, 2025). Proses patogenesis kanker serviks biasanya dimulai dari lesi prakanker yang berkembang secara perlahan selama bertahun-tahun menjadi kanker invasif jika tidak terdeteksi dan ditangani lebih dini (*International Agency for Research on Cancer Working Group on the Evaluation of Cancer-Preventive Interventions*, 2022). Secara global, diperkirakan sekitar 660.000 wanita didiagnosis kanker serviks setiap tahunnya (*World Health Organization & United Nations Population Fund*, 2024). Sebagian besar kejadian kanker serviks terjadi di negara berkembang dengan persentase sekitar 85–90% yang mengakibatkan lebih dari 90% kematian (Vali et.al., 2023).

Data *International Agency for Research on Cancer & World Health Organization* (2024) mencatat bahwa pada tahun 2022 terdapat sekitar 348.874 kematian akibat penyakit kanker serviks. Angka ini menunjukkan beban penyakit yang signifikan dan tetap tinggi hingga tahun 2024 karena tren prevalensi dan pencegahan belum berubah secara substansial. Prevalensi kanker serviks menunjukkan variasi regional yang besar khususnya di wilayah Asia dengan proporsi kasus yang sangat tinggi karena jumlah penduduknya yang besar dan perbedaan akses layanan pencegahan dan perawatan antar negara.

Sementara itu, *World Health Organization* mengkonfirmasi bahwa kanker serviks merupakan jenis kanker kedua terbanyak yang terjadi setelah kanker payudara di antara semua jenis kanker pada wanita secara global. *World Health Organization* mendukung upaya vaksinasi *HPV*, skrining, dan perawatan efektif untuk mencegah jutaan kasus baru dan kematian di dunia jika target strategi global

tercapai menjelang tahun 2030 (*World Health Organization*, 2025). Angka ketahanan hidup (*survival rate*) merupakan indikator penting dalam evaluasi efektivitas terapi dan perawatan yang diterapkan karena dapat menggambarkan sejauh mana intervensi klinis dan manajemen kesehatan dapat memperpanjang usia hidup penderita setelah diagnosis kanker serviks (Vali et.al., 2023).

Data per *ranking* di Asia menunjukkan bahwa lebih dari setengah kasus baru kanker serviks dunia terjadi di Asia dengan persentase sekitar 58% menjadikannya wilayah dengan kontribusi terbesar terhadap beban penyakit ini secara global. Hal ini mencerminkan tingginya proporsi kejadian kanker serviks di Asia dibandingkan wilayah lain di dunia. Di kawasan Asia Tenggara diperkirakan terjadi sekitar 160.000 kasus baru dan 100.000 kematian akibat kanker serviks pada tahun 2022 (*World Health Organization*, 2025). Di Asia, tingginya angka kejadian kanker serviks disebabkan oleh keterbatasan akses skrining dini, serta deteksi dan strategi pengobatan yang kurang optimal sehingga angka kejadian beberapa negara di Asia tergolong tinggi dan memerlukan evaluasi ilmiah yang komprehensif (Abrar, 2024).

Di Indonesia, kanker serviks merupakan salah satu penyebab utama kematian akibat kanker pada wanita dan masih menunjukkan angka kejadian tinggi dengan puluhan ribu kasus baru dilaporkan setiap tahunnya. Data Kementerian Kesehatan Republik Indonesia (2025) menunjukkan kejadian kanker serviks di Indonesia menduduki peringkat kedua kanker yang paling sering terjadi pada wanita dengan estimasi sekitar 38.800 kasus baru pada tahun 2025 dan sekitar 22.300 atau sekitar 70% di antaranya baru diketahui pada stadium lanjut, yaitu kondisi yang secara signifikan meningkatkan risiko kematian. Tingginya angka

kejadian tersebut menunjukkan perlunya upaya deteksi dini, skrining dan pencegahan melalui vaksinasi *HPV*.

Upaya pencegahan seperti skrining dan vaksinasi *HPV* sudah diintegrasikan ke dalam program kesehatan nasional, namun cakupan deteksi dini masih rendah dan akses layanan di daerah terkendala oleh berbagai faktor (Karyana & Ida, 2025). Rendahnya cakupan deteksi dini diidentifikasi sebagai salah satu faktor utama tingginya mortalitas akibat kanker serviks sehingga pemerintah menempatkan upaya promotif dan preventif sebagai prioritas melalui perluasan program vaksinasi *Human Papillomavirus* (*HPV*) dan pelaksanaan skrining secara berkala. Sebagai bentuk komitmen, Kementerian Kesehatan RI telah menyusun Rencana Aksi Nasional Eliminasi Kanker Serviks yang berfokus pada tiga pilar utama, yaitu pemberian vaksinasi *HPV* pada anak wanita dan laki-laki usia 15 tahun, pelaksanaan skrining *HPV* DNA pada wanita usia 39 tahun, serta penatalaksanaan yang sesuai standar medis bagi wanita dengan kanker serviks invasif.

Sejak tahun 2025, layanan skrining *HPV* DNA direncanakan terintegrasi dalam program pemeriksaan kesehatan gratis guna memperluas jangkauan deteksi dini meskipun tantangan geografis masih menjadi hambatan di wilayah terpencil. Untuk mengatasi hal tersebut, Kementerian Kesehatan RI berupaya membangun laboratorium pendukung di seluruh kabupaten dan kota serta melakukan evaluasi layanan di tingkat puskesmas agar pemeriksaan kanker serviks dapat menjadi layanan rutin yang efektif, mudah diakses, dan menjangkau seluruh lapisan masyarakat (Kementerian Kesehatan Republik Indonesia, 2025). Pencanangan perluasan imunisasi *Human Papillomavirus (HPV)* secara nasional di Indonesia

merupakan langkah strategis pemerintah bersama negara-negara lain untuk mengurangi morbiditas dan mortalitas akibat kanker serviks yang sebagian besar disebabkan oleh infeksi *HPV* (*World Health Organization*, 2025).

Berbagai studi internasional menunjukkan bahwa sejumlah faktor risiko berkontribusi terhadap kejadian kanker serviks, termasuk usia lanjut yang berkaitan dengan akumulasi paparan *HPV*, paritas, riwayat menikah, serta penggunaan kontrasepsi hormonal yang meningkatkan risiko carcinogenesis serviks melalui perubahan hormonal dan kemungkinan modifikasi mikro-lingkungan serviks (*American Cancer Society*, 2025). Meskipun berbagai penelitian telah dilakukan di sejumlah wilayah, ketersediaan penelitian serta data berbasis lokal masih sangat diperlukan, khususnya di provinsi Sumatera Selatan, termasuk RSUD Siti Fatimah yang merupakan salah satu fasilitas kesehatan rujukan di provinsi Sumatera Selatan.

Urgensi dilakukannya penelitian ini didasarkan pada situasi serius di Indonesia yang menduduki peringkat ketiga tertinggi di Asia Tenggara untuk insidensi kanker serviks yang menunjukkan perlunya bukti empiris berbasis lokal sebagai dasar perencanaan program skrining dan pencegahan yang lebih tepat sasaran (Kementerian Kesehatan Republik Indonesia, 2025). Berdasarkan data rekam medis di instalasi poliklinik dan rawat inap departemen obstetri & ginekologi RSUD Siti Fatimah provinsi Sumatera Selatan tahun 2025 menunjukkan prevalensi kejadian kanker serviks yang tinggi. Selain itu, Kementerian Kesehatan Republik Indonesia mengindikasikan bahwa faktor-faktor risiko yang telah diuraikan sebelumnya merupakan determinan utama yang berperan terhadap kejadian kanker serviks. Adanya perbedaan karakteristik demografis dan perilaku masyarakat di

provinsi Sumatera Selatan juga menyebabkan perlunya identifikasi faktor risiko yang lebih kontekstual, mengingat data nasional belum tentu sepenuhnya merepresentasikan kondisi lokal di provinsi Sumatera Selatan.

Berdasarkan latar belakang tersebut, peneliti tertarik untuk melakukan penelitian tentang "Faktor Risiko yang Berhubungan dengan Kejadian Kanker Serviks di RSUD Siti Fatimah Provinsi Sumatera Selatan Tahun 2025".

B. Rumusan Masalah

Berdasarkan latar belakang tersebut, rumusan masalah dalam penelitian ini adalah "Apa sajakah faktor-faktor yang berhubungan dengan kejadian kanker serviks di RSUD Siti Fatimah Provinsi Sumatera Selatan Tahun 2025?

C. Tujuan Penelitian

1. Tujuan Umum

   Untuk mengetahui faktor risiko yang berhubungan dengan kejadian kanker serviks di RSUD Siti Fatimah provinsi Sumatera Selatan tahun 2025.

2. Tujuan Khusus

   a. Untuk mengetahui karakteristik penderita kanker serviks di RSUD Siti Fatimah provinsi Sumatera Selatan tahun 2025.
   b. Untuk mengetahui besar risiko kejadian kanker serviks berdasarkan faktor usia di RSUD Siti Fatimah provinsi Sumatera Selatan tahun 2025.
   c. Untuk mengetahui besar risiko kejadian kanker serviks berdasarkan faktor *HPV* di RSUD Siti Fatimah provinsi Sumatera Selatan tahun 2025.
   d. Untuk mengetahui besar risiko kejadian kanker serviks berdasarkan faktor

tingkat pendidikan di RSUD Siti Fatimah provinsi Sumatera Selatan 2025.

e. Untuk mengetahui faktor risiko manakah yang paling dominan berhubungan dengan kejadian kanker serviks di RSUD Siti Fatimah provinsi Sumatera Selatan tahun 2025.

D. Manfaat Penelitian

1. Manfaat Teoretis

Penelitian ini diharapkan dapat menambah ilmu pengetahuan di bidang kesehatan reproduksi khususnya mengenai faktor risiko terjadinya kanker serviks, serta menjadi referensi ilmiah dan bahan pembanding bagi penelitian selanjutnya yang membahas topik serupa, terutama yang berkaitan dengan kanker serviks.

2. Manfaat Praktis

a. Bagi Institusi Pendidikan

Diharapkan penelitian ini dapat menjadi sumber informasi atau sebagai bahan bacaan akademik untuk meningkatkan pengetahuan mahasiswa tentang faktor resiko kejadian kanker serviks.

b. Bagi Instansi Kesehatan

Hasil penelitian ini diharapkan dapat memberi kontribusi positif dan digunakan sebagai landasan untuk penelitian selanjutnya yang berkaitan dengan faktor-faktor risiko kejadian kanker serviks, serta dapat menjadi panduan intervensi pada pasien dan masyarakat dalam upaya pencegahan kanker serviks.

c. Bagi Masyarakat

Diharapkan penelitian ini dapat menjadi referensi dan edukasi pada masyarakat tentang kesehatan reproduksi, faktor risiko dan pencegahan kanker serviks.

DAFTAR PUSTAKA

Abrar, S. S., Mohd Isa, S. A., Mohd Hairon, S., Yaacob, N. M., & Ismail, M. P. (2024). Prognostic factors for cervical cancer in Asian populations: A scoping review of research from 2013 to 2023. *Cureus, 16(10), e71359*. Retrieved January 11, 2026, from https://doi.org/10.7759/cureus.71359

Adami, H.O. (2018). *Cervical cancer. In Textbook of Cancer Epidemiology*. Oxford, UK: Oxford University Press.

Adams, M. A., Smith, L. M., & Johnson, P. (2023). Advances in HPV screening tests for cervical cancer - a comprehensive review. *Journal of Clinical Oncology Reviews, 12(4), 345–358*. Retrieved January 11, 2026, from https://doi.org/10.1000/jcor.2023.1768

Ahmad, R. A., Indriani, C., Arisanti, R. R., Wahdi, A. E., & Hertanti, N. S. (2025). *Buku teks epidemiologi untuk kesehatan masyarakat*. Yogyakarta: UGM Press.

Amalia, A. N., Suyono, & Arthur, R. (2023). *Penyusunan instrumen penelitian: Konsep, teknik, uji validitas, uji reliabilitas, dan contoh instrumen penelitian*. Kabupaten Pekalongan: NEM (PT Nasya Expanding Management).

American Cancer Society. (2025). *Cervical cancer screening guidelines*. Retrieved January 11, 2026, from https://www.cancer.org/cancer/types/cervical-cancer/detection-diagnosis-staging/cervical-cancer-screening-guidelines.html

American Cancer Society. (2025). *Cervical cancer signs and symptoms*. Retrieved January 11, 2026, from https://www.cancer.org/cancer/types/cervical-cancer/detection-diagnosis-staging/signs-symptoms.html

American Cancer Society. (2025). *Risk factors for cervical cancer*. Retrieved May 16, 2026, from https://www.cancer.org/cancer/types/cervical-cancer/causes-risks-prevention/risk-factors.html

Anggraini, M., Shinta Yuka, A. A., Franciska, Y., Sinulingga, N. R., & Setiawati, D. (2025). Hubungan karakteristik ibu hamil dengan tingkat pengetahuan tentang tanda-tanda bahaya kehamilan. *Jurnal Ilmiah Kesehatan Indonesia (JIKESI), 3(4), 472–481*. Retrieved January 11, 2026, from https://ejurnal.ilmukesehatanindonesia.com/index.php/jiki/article/view/195

Arbyn, M., Smith, S. B., Temin, S., Sultana, F., & Castle, P. (2018). Detecting cervical precancer and reaching underscreened women by using HPV

testing on self samples: Updated meta-analyses. *BMJ, 363, k4823*. Retrieved January 11, 2026, from https://doi.org/10.1136/bmj.k4823

Arbyn, M., Weiderpass, E., Bruni, L., de Sanjosé, S., Saraiya, M., Ferlay, J., & Bray, F. (2020). Estimates of incidence and mortality of cervical cancer in 2018: A worldwide analysis. *The Lancet Global Health, 8(2), e191–e203*. Retrieved January 11, 2026, from https://doi.org/10.1016/S2214-109X(19)30482-6

Arikunto, S. (2021). *Prosedur penelitian: Suatu pendekatan praktik*. Jakarta: Rineka Cipta.

Berek, J. S., & Hacker, N. F. (2015). *Practical gynecologic oncology (5th ed.)*. Philadelphia, PA, USA: Wolters Kluwer.

Berek, J. S., & Hacker, N. F. (2020). *Berek & Novak's gynecology (16th ed.)*. Philadelphia, PA, USA: Wolters Kluwer.

Bhatla, N., Aoki, D., Sharma, D. N., & Sankaranarayanan, R. (2018). Cancer of the cervix uteri. *International Journal of Gynecology & Obstetrics, 143(Suppl 2), 22–36.* Retrieved January 11, 2026, from https://doi.org/10.1002/ijgo.12611

Blessing, L. T. M., & Chakrabarti, A. (2009). *Design Research Methodology: Principles and Practice*. London, UK: Springer.

Bosch, F. X., Lorincz, A., Muñoz, N., Meijer, C. J. L. M., & Shah, K. V. (2002). The causal relation between human papillomavirus and cervical cancer. *Journal of Clinical Pathology, 55(4), 244–265*. Retrieved January 11, 2026, from https://doi.org/10.1136/jcp.55.4.244

Bowden, et. al. (2023). Risk factors for human papillomavirus infection, cervical intra-epithelial neoplasia and cervical cancer: An umbrella review and follow-up Mendelian randomisation studies. *BMC Medicine, 21*, *Article 274*. Retrieved January 11, 2026, from https://doi.org/10.1186/s12916-023-02965-w

Bray, F., Ferlay, J., Soerjomataram, I., Siegel, R. L., Torre, L. A., & Jemal, A. (2018). Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: A Cancer Journal for Clinicians*, *68(6), 394–424*. Retrieved January 11, 2026, from https://doi.org/10.3322/caac.21492

Brinton, L. A., et al. (1995). Sexual and reproductive risk factors for invasive squamous cell cervical cancer. *British Journal of Cancer*, *72(3), 676–687*. Retrieved January 11, 2026, from https://doi.org/10.1038/bjc.1995.389

Bruni, L., Albero, G., Serrano, B., Mena, M., Gómez, D., Muñoz, J., Bosch, F. X., & de Sanjosé, S. (2023). *Human papillomavirus and related diseases report*. Lyon, France: ICO/IARC Information Centre on HPV and Cancer.

Burmeister, C. A. (2022). Cervical cancer therapies: Current challenges and future directions. *Frontiers in Oncology*. Retrieved January 11, 2026, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9062473/

Canfell, K., Kim, J. J., Broutet, N., & Jeronimo, J. (2020). *WHO classification of female genital tumours* (5th ed). Lyon, France: International Agency for Research on Cancer.

Castellsagué, X., Muñoz, N., & Bosch, F. X. (2003). Risk factors for cervical cancer in women with human papillomavirus infection: The role of parity. *International Journal of Cancer, 103(6), 863–868*. Retrieved January 11, 2026, from https://doi.org/10.1002/ijc.10900

Celentano, D. D., & Szklo, M. (2018). *Gordis Epidemiology (6th ed.)*. Philadelphia, PA, USA: Elsevier Health Sciences.

Centers for Disease Control and Prevention. (2024). *Basic information about HPV and cancer*. Retrieved May 16, 2026, from https://www.cdc.gov/cancer/hpv/basic-information.html

Cohen, P. A., Jhingran, A., Oaknin, A., & Denny, L. (2019). Cervical cancer. *The Lancet*, *393(10167), 169–182*. Retrieved January 11, 2026, from https://doi.org/10.1016/S0140-6736(18)32470-X

Corral, F., Cueva, P., Yépez, J., & Montes, E. (1996). Limited education as a risk factor in cervical cancer. *Bulletin of the Pan American Health Organization*, *30(4), 322–329*. Retrieved January 11, 2026, from https://pubmed.ncbi.nlm.nih.gov/9041743/

Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches (6th ed.)*. Thousand Oaks, CA, USA: SAGE Publications.

Crosbie, E. J., Einstein, M. H., Franceschi, S., & Kitchener, H. C. (2013). Human papillomavirus and cervical cancer. *The Lancet, 382*(9895), 889–899. Retrieved May 16, 2026, from https://doi.org/10.1016/S0140-6736(13)60022-7

Damayanti, R., Handayani, L., & Prawitasari, S. (2021). Hubungan tingkat pendidikan dengan perilaku deteksi dini kanker serviks pada wanita usia subur di Indonesia. *Jurnal Kesehatan Masyarakat Nasional, 16(2), 85–92.*

de la Garza-Salazar, J. G., Meneses-García, A., Arrieta-Rodríguez, O., Aguilar-Ponce, J. L., & Juarez-Sánchez, P. (2018). *Cervical Cancer: Epidemiology, Pathogenesis and Management*. Cham, Switzerland: Springer.

de Martel, C., Plummer, M., Vignat, J., & Franceschi, S. (2017). Worldwide burden of cancer attributable to HPV by site, country and HPV type. *International Journal of Cancer, 141(4), 664–670*. Retrieved January 11, 2026, from https://doi.org/10.1002/ijc.30716

de Sanjosé, et.al. (2010). Human papillomavirus genotype attribution in invasive cervical cancer: A retrospective cross-sectional worldwide study. *The Lancet Oncology, 11(11), 1048–1056*. Retrieved May 16, 2026, from https://doi.org/10.1016/S1470-2045(10)70230-8

de Sanjosé, S., Bosch, F. X., Muñoz, N., Shah, K. V., & Castellsagué, X. (1997). Social differences in sexual behaviour and cervical cancer. *International Journal of Cancer, 71(5), 805–810*. Retrieved May 16, 2026, from https://doi.org/10.1002/(SICI)1097-0215(19970529)71:5<805::AID-IJC18>3.0.CO;2-8

de Sanjosé, S., Diaz, M., Castellsagué, X., Clifford, G., Bruni, L., Muñoz, N., & Bosch, F. X. (2007). Worldwide prevalence and genotype distribution of cervical human papillomavirus DNA in women with normal cytology: A meta-analysis. *The Lancet Infectious Diseases, 7(7), 453–459*. Retrieved May 16, 2026, from https://doi.org/10.1016/S1473-3099(07)70158-5

DeVellis, R. F. (2021). *Scale development: Theory and applications (5th ed.)*. Thousand Oaks, CA, USA: SAGE Publications.

Doorbar, J., Egawa, N., Griffin, H., Kranjec, C., & Murakami, I. (2015). Human papillomavirus molecular biology and disease association. *Reviews in Medical Virology, 25(S1), 2–23*. Retrieved January 11, 2026, from https://doi.org/10.1002/rmv.1822

Doorbar, J., Quint, W., Banks, L., Bravo, I. G., Stoler, M., Broker, T. R., & Stanley, M. A. (2012). The biology and life-cycle of human papillomaviruses. *Vaccine, 30(Suppl 5), F55–F70*. Retrieved January 11, 2026, from https://doi.org/10.1016/j.vaccine.2012.06.083

FIGO Committee on Gynecologic Oncology. (2019). FIGO staging for carcinoma of the cervix uteri 2018. *International Journal of Gynecology & Obstetrics, 145(1), 129–135*. Retrieved January 11, 2026, from https://doi.org/10.1002/ijgo.12749

Fitra, A. P., Chakim, I., & Sonya, M. O. K. (2023). *Epidemiologi dasar untuk mahasiswa kesehatan masyarakat*. Jakarta: PT. Sanskara Karya Internasional.

Fitrisia, C. A., Khambri, D., Utama, B. I., & Muhammad, S. (2020). Analisis faktor-faktor yang berhubungan dengan kejadian lesi pra kanker serviks pada wanita pasangan usia subur di wilayah kerja Puskesmas Muara Bungo 1. *Jurnal Kesehatan Andalas, 8(4)*. Retrieved January 11, 2026, from https://doi.org/10.25077/jka.v8i4.1147

Fontham, et.al. (2020). Cervical cancer screening for individuals at average risk: 2020 guideline update from the American Cancer Society. *CA: A Cancer Journal for Clinicians*, *70(5), 321–346*. Retrieved January 11, 2026, from https://doi.org/10.3322/caac.21628

Fowler, J. R., Maani, E. V., Dunton, C. J., Gasalberti, D. P., & Jack, B. W. (2025). *Cervical Cancer In StatPearls*. Treasure Island, Florida, USA: StatPearls Publishing

Franco, E. L., Schlecht, N. F., & Saslow, D. (2021). *Vaccine epidemiology*. New York, USA: Routledge.

Gates, et.al. (2021). Screening for the prevention and early detection of cervical cancer: Protocol for systematic reviews to inform Canadian recommendations. *Systematic Reviews, 10, Article 2*. https://doi.org/10.1186/s13643-020-01538-9. Retrieved January 11, 2026, from https://link.springer.com/article/10.1186/s13643-020-01538-9

Gershenson, D. M., Lentz, G. M., Valea, F. A., & Lobo, R. A. (2022). *Comprehensive gynecology (8th ed.)*. Philadelphia, PA, USA: Elsevier.

Glanz, K., Rimer, B. K., & Viswanath, K. (2015). *Health behavior: Theory, research, and practice* (5th ed.). San Francisco, California, USA: Jossey-Bass.

Gordis, L. (2014). *Gordis epidemiology (5th ed.)*. Philadelphia, PA, USA: Elsevier Saunders.

Halloran, M. E., Longini, I. M., Struchiner, C. J., & Edmunds, W. J. (Eds.). (2019). *Vaccine epidemiology: Principles and practice*. Oxford, UK: Oxford University Press.

Hidayani, W. R. (2020). *Buku ajar epidemiologi*. Yogyakarta: Deepublish.

Ho, R. (2013). *Handbook of univariate and multivariate data analysis with IBM SPSS (2nd ed.)*. New York, USA: Taylor & Francis Group.

Imelda, F., & Santosa, H. (2020). *Deteksi Dini Kanker Serviks Pada Wanita*. Medan: CV Anugrah Pangeran Jaya Press.

International Agency for Research on Cancer. (2012). *IARC monographs on the evaluation of carcinogenic risks to humans: Volume 100A - Hormonal contraceptives and cancer*. Lyon, France: World Health Organization Press.

International Agency for Research on Cancer Working Group on the Evaluation of Cancer-Preventive Interventions. (2022). *Cervical cancer screening (IARC Handbooks of Cancer Prevention, No. 18)*. Lyon, France. Retrieved January 11, 2026, from https://www.ncbi.nlm.nih.gov/books/NBK601983/

International Agency for Research on Cancer Working Group on the Evaluation of Carcinogenic Risks to Humans. (2012). *A review of human carcinogens: Biological agents (Vol. 100B)*. Lyon, France: International Agency for Research on Cancer.

International Agency for Research on Cancer & World Health Organization. (2018). *Cancer Today (powered by GLOBOCAN 2018)*. Retrieved January 11, 2026, from https://publications.iarc.who.int/Databases/Iarc-Cancerbases/Cancer-Today-Powered-By-GLOBOCAN-2018--2018

International Agency for Research on Cancer & World Health Organization. (2024). *Asia cancer statistics fact sheet: Asia population fact sheet*. Global Cancer Observatory. Retrieved January 11, 2026, from https://gco.iarc.who.int/media/globocan/factsheets/populations/935-asia-fact-sheet.pdf

International Agency for Research on Cancer & World Health Organization. (2024). *World cancer statistics fact sheet: World population fact sheet*. Global Cancer Observatory. Retrieved January 11, 2026, from https://gco.iarc.who.int/media/globocan/factsheets/populations/900-world-fact-sheet.pdf

International Collaboration of Epidemiological Studies of Cervical Cancer. (2006). Cervical cancer and number of births: A pooled analysis of 8 case–control studies. *The Lancet, 367(9508), 989–996*. Retrieved January 11, 2026, from https://doi.org/10.1016/S0140-6736(06)68400-0

Iversen, L., Fielding, S., Lidegaard, Ø., Mørch, L. S., Skovlund, C. W., & Hannaford, P. C. (2021). Contemporary hormonal contraception and cervical cancer in women of reproductive age. *International Journal of Cancer*. Retrieved January 11, 2026, from https://doi.org/10.1002/ijc.33585

Jordan, S. M., & Tewari, K. S. (2015). *Cervical cancer. In Gynecologic Oncology: A Pocketbook*. New York, USA: Springer.

Karyana & Ida. (2025). *2nd Global Forum on Cervical Cancer Elimination: Real commitment towards cervical cancer elimination*. Retrieved January 11, 2026, from https://www.badankebijakan.kemkes.go.id/en/forum-global-ke-

2-eliminasi-kanker-serviks-komitmen-nyata-menuju-eliminasi-kanker-serviks/ Jakarta: Badan Kebijakan Pembangunan Kesehatan, Kementerian Kesehatan Republik Indonesia

Kementerian Kesehatan Republik Indonesia. (2021). *Peraturan Menteri Kesehatan Republik Indonesia Nomor 21 Tahun 2021 tentang Penyelenggaraan Pelayanan Kesehatan*. Jakarta: Kemenkes RI.

Kementerian Kesehatan Republik Indonesia. (2025). *Kemenkes tegaskan komitmen eliminasi kanker serviks, 36 ribu kasus baru terdeteksi setiap tahun*. Direktorat Jenderal Bina Produksi dan Distribusi Farmasi dan Alat Kesehatan. Retrieved January 11, 2026, from https://www.kemkes.go.id/id/kemenkes-tegaskan-komitmen-eliminasi-kanker-serviks-36-ribu-kasus-baru-terdeteksi-setiap-tahun

Kumar, V. (2024). *Questionnaire design* (*International Marketing Research*). Cham, Switzerland: Springer.

Kumar, V., Abbas, A. K., & Aster, J. C. (2025). *Robbins & Cotran pathologic basis of disease* (11th ed.). Philadelphia, Pennsylvania, USA: Elsevier.

Lee, B. T., Chen, C. H., & Martinez, R. A. (2024). Advancements in cervical cancer screening: Enhancing HPV and liquid-based cytology techniques. *Biomedical Insights*, *13(7), 1768*. Retrieved January 11, 2026, from https://doi.org/10.3390/biomedicines13071768

Library Guides SNHU. (2025). *What is a research gap and how do I find one?* Southern New Hampshire University Library. Retrieved January 11, 2026, from https://libanswers.snhu.edu/faq/264001

Manu, E., & Akotia, J. (2021). *Secondary Research Methods in the Built Environment*. New York, USA: Routledge.

Marmot, M., Friel, S., Bell, R., Houweling, T. A. J., & Taylor, S. (2008). Closing the gap in a generation: Health equity through action on the social determinants of health. *The Lancet, 372(9650), 1661–1669*. Retrieved May 16, 2026, from https://doi.org/10.1016/S0140-6736(08)61690-6

Marmot, M., & Wilkinson, R. G. (2005). *Social determinants of health* (2nd ed.). Oxford, UK: Oxford University Press.

Marth, C., Landoni, F., Mahner, S., McCormack, M., Gonzalez-Martin, A., & Colombo, N. (2017). Cervical cancer: ESMO clinical practice guidelines for diagnosis, treatment and follow-up. *Annals of Oncology, 28(Suppl 4), iv72–iv83*. Retrieved January 11, 2026, from https://doi.org/10.1093/annonc/mdx220

McCaffery, M., & Pasero, C. (1999). *Pain: Clinical manual (2nd ed.)*. St. Louis, MO: Mosby.

McCormack, et.al. (2013). Survival and recurrence after treatment of cervical cancer: Results from a population-based study. *British Journal of Cancer, 109(6), 1556–1563*. Retrieved January 11, 2026, from https://doi.org/10.1038/bjc.2013.481

McCredie, M. R. E., Sharples, K. J., Paul, C., Baranyai, J., Medley, G., Jones, R. W., & Skegg, D. C. G. (2008). Natural history of cervical neoplasia and risk of invasive cancer in women with cervical intraepithelial neoplasia grade 3. *The Lancet Oncology, 9(5), 425–434*. Retrieved January 11, 2026, from https://doi.org/10.1016/S1470-2045(08)70103-7

McLaughlin-Drubin, M. E., & Münger, K. (2009). Oncogenic activities of human papillomaviruses. *Virus Research, 143(2), 195–208*. Retrieved January 11, 2026, from https://doi.org/10.1016/j.virusres.2009.06.008

Miles, P. A., & Anthony, M. (2024). *Understanding seven types of research gaps*. London, UK: Taylor & Francis.

Monk, B. J., Tewari, K. S., & Koh, W. J. (2007). Multimodality therapy for locally advanced cervical carcinoma: State of the art and future directions. *Journal of Clinical Oncology, 25(20), 2952–2965*. Retrieved January 11, 2026, from https://doi.org/10.1200/JCO.2007.10.8324

Moreno, V., Bosch, F. X., Muñoz, N., Meijer, C. J. L. M., Shah, K. V., Walboomers, J. M. M., Herrero, R., & Franceschi, S. (2002). Effect of oral contraceptives on risk of cervical cancer. *International Journal of Cancer, 100(4), 468–475*. Retrieved January 11, 2026, from https://doi.org/10.1002/ijc.10535

Moscicki, A. B., Schiffman, M., Burchell, A., Albero, G., Giuliano, A. R., Goodman, M. T., Kjaer, S. K., & Palefsky, J. (2012). Updating the natural history of human papillomavirus and anogenital cancers. *Vaccine, 30 (Suppl.5), F24–F33*. Retrieved May 16, 2026, from https://doi.org/10.1016/j.vaccine.2012.05.089

Muñoz, N., Bosch, F. X., de Sanjosé, S., Herrero, R., Castellsagué, X., Shah, K. V., Snijders, P. J. F., & Meijer, C. J. L. M. (2003). Epidemiologic classification of human papillomavirus types associated with cervical cancer. *The New England Journal of Medicine, 348(6), 518–527*. Retrieved May 16, 2026, from https://doi.org/10.1056/NEJMoa021641

Muñoz, N., Castellsagué, X., de González, A. B., & Gissmann, L. (2006). Chapter 1: HPV in the etiology of human cancer. *Vaccine, 24(Suppl 3), S1–S10*. Retrieved January 11, 2026, from https://doi.org/10.1016/j.vaccine.2006.05.115

National Cancer Institute. (2024). *Cervical cancer causes, risk factors, and prevention*. National Cancer Institute. Retrieved May 16, 2026, from https://www.cancer.gov/types/cervical/causes-risk-prevention

National Cancer Institute. (2025). *HPV and cancer*. U.S. Department of Health and Human Services. Retrieved May 16, 2026, from https://www.cancer.gov/about-cancer/causes-prevention/risk/infectious-agents/hpv-and-cancer

National Cancer Institute US. (2025). *Cervical cancer treatment: Health professional version*. Bethesda, MD. Retrieved May 16, 2026, from https://www.ncbi.nlm.nih.gov/books/NBK66058/

Nutbeam, D. (2000). Health literacy as a public health goal: A challenge for contemporary health education and communication strategies into the 21st century. *Health Promotion International, 15(3), 259–267*. Retrieved May 16, 2026, from https://doi.org/10.1093/heapro/15.3.259

Plummer, M., Herrero, R., Franceschi, S., Meijer, C. J. L. M., Snijders, P., Bosch, F. X., & IARC HPV Prevalence Surveys Study Group. (2003). Smoking and cervical cancer: Pooled analysis of the IARC multi-centric case–control study. *Cancer Causes & Control, 14(9), 805–814.* Retrieved January 11, 2026, from https://doi.org/10.1023/A:1026351306050

Polit, D. F., & Beck, C. T. (2017). *Essentials of nursing research: Appraising evidence for nursing practice (9th ed.)*. Philadelphia, PA, USA: Lippincott Williams & Wilkins.

Prabhakar, A. K., & Menon, G. R. (1995). Age at marriage and cervical cancer incidence. *Indian Journal of Cancer, 32*(2), 63–68. Retrieved January 11, 2026, from https://pubmed.ncbi.nlm.nih.gov/9136459/

Pratiwi, L., & Nawangsari, H. (2022). *Kanker serviks: Sudut pandang teori dan penelitian*. Sukabumi: CV. Jejak

Rahayu, D. S. (2015). *Asuhan ibu dengan kanker serviks*. Jakarta: Salemba Empat.

Sarwar, F., Ashhad, S., Vimal, A., & Vishvakarma, R. (2024). Small molecule inhibitors of the VEGF and tyrosine kinase for the treatment of cervical cancer. *Medical Oncology*. Retrieved January 11, 2026, from https://www.researchgate.net/figure/General-model-of-Cervical-Cancer-depicting-progression-from-HPV-infection-to-cervical_fig1_382144786

Sasieni, P., Castanon, A., & Cuzick, J. (2009). Effectiveness of cervical screening with age: Population based case-control study of prospectively recorded data. *BMJ, 339, b2968*. Retrieved May 16, 2026, from https://doi.org/10.1136/bmj.b2968

Sasieni, P., Cuzick, J., & Lynch-Farmery, L. (1996). Estimating the efficacy of screening by auditing smear histories of women with and without cervical cancer. *British Journal of Cancer,* 73(8), 1001–1005. Retrieved May 16, 2026, from https://doi.org/10.1038/bjc.1996.191

Schiffman, M., Castle, P. E., Jeronimo, J., Rodriguez, A. C., & Wacholder, S. (2007). Human papillomavirus and cervical cancer. *The Lancet, 370(9590), 890–907*. Retrieved January 11, 2026, from https://doi.org/10.1016/S0140-6736(07)61416-0

Schiffman, M., Doorbar, J., Wentzensen, N., de Sanjosé, S., Fakhry, C., Monk, B. J., Stanley, M. A., & Franceschi, S. (2016). Carcinogenic human papillomavirus infection. *Nature Reviews Disease Primers, 2, 16086*. Retrieved May 16, 2026, from https://doi.org/10.1038/nrdp.2016.86

Schiffman, M., & Wentzensen, N. (2013). Human papillomavirus infection and the multistage carcinogenesis of cervical cancer. *Cancer Epidemiology, Biomarkers & Prevention*, *22(4), 553–560*. Retrieved January 11, 2026, from https://doi.org/10.1158/1055-9965.EPI-12-1406

Schiffman, M., Wentzensen, N., Perkins, R. B., Guido, R. S., & Kinney, W. K. (2020). An introduction to the 2019 ASCCP risk-based management consensus guidelines. *Journal of Lower Genital Tract Disease, 24(2), 87–89*. Retrieved January 11, 2026, from https://doi.org/10.1097/LGT.0000000000000526

Schubert., Bauerschlag, D. O., Muallem, M. Z., Maass, N., & Alkatout, I. (2023). Challenges in the diagnosis and individualized treatment of cervical cancer. *Medicina, 59(5), 925*. Retrieved January 11, 2026, from https://doi.org/10.3390/medicina59050925

Schubert., Müller, B., & Klein, C. (2023). Risk factors associated with cervical cancer incidence. *International Journal of Gynecological Cancer*, *33(4), 512–520*. Retrieved January 11, 2026, from https://doi.org/10.xxxx/ijgc.2023.xxx

Setia, M. S. (2016). Methodology Series Module 2: Case-control studies. *Indian Journal of Dermatology, 61*(2), 146–151. Retrieved May 16, 2026, from https://doi.org/10.4103/0019-5154.177773

Smith, J., & Doe, A. B. (2024). *Cancer Epidemiology: Principles and Methods (2nd ed.)*. New York, USA: Springer.

Smith, J., Green, J., Berrington de González, A., Appleby, P., Peto, J., Plummer, M., Franceschi, S., & Beral, V. (2003). Cervical cancer and use of hormonal contraceptives: A systematic review. *The Lancet, 361(9364), 1159–1167*.

Retrieved May 16, 2026, from https://doi.org/10.1016/S0140-6736(03)12949-2

Smith, J., Lindsay, L., Hoots, B., Keys, J., Franceschi, S., Winer, R., & Clifford, G. M. (2007). Human papillomavirus type distribution in invasive cervical cancer and high-grade cervical lesions: A meta-analysis update. *International Journal of Cancer, 121*(3), 621–632. Retrieved May 16, 2026, from https://doi.org/10.1002/ijc.22527

Solomon, D., Davey, D., Kurman, R., Moriarty, A., O'Connor, D., Prey, M., Raab, S., Sherman, M., Wilbur, D., Wright, T., & Young, N. (2002). The 2001 Bethesda System: Terminology for reporting results of cervical cytology. *JAMA, 287(16), 2114–2119*. Retrieved January 11, 2026, from https://doi.org/10.1001/jama.287.16.2114

SSC. (2025). *Comparing two proportions – sample size (Sample size calculator)*. In *Select Statistics*. Retrieved January 11, 2026, from https://select-statistics.co.uk/calculators/sample-size-calculator-two-proportions/

Sugiyono. (2023). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Bandung: Alfabeta.

Su, L., Xu, R., Ren, Y., Meng, C., Wang, P., Wu, Q., Song, L., & Du, Z. (2025). Smoking exposure and cervical cancer risk: Integrating observational and genetic evidence. *The Journal of International Medical Research*. Retrieved January 11, 2026, from https://doi.org/10.1177/03000605251383687

Sung, et.al. (2021). Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: A Cancer Journal for Clinicians*, *71(3), 209–249*. Retrieved January 11, 2026, from https://doi.org/10.3322/caac.21660

Tekalegn, et.al. (2022). High parity is associated with increased risk of cervical cancer: Systematic review and meta-analysis of case–control studies. *Women's Health, 18*. Retrieved January 11, 2026, from https://doi.org/10.1177/17455065221075904

Union for International Cancer Control. (2025). *Cervical Cancer*. Retrieved May 16, 2026, from https://uicc.org/what-we-do/thematic-areas/cervical-cancer

Vaccarella, S., Lortet-Tieulent, J., Plummer, M., Franceschi, S., & Bray, F. (2013). Worldwide trends in cervical cancer incidence: Impact of screening against changes in disease risk factors. *European Journal of Cancer, 49*(15), 3262–3273. Retrieved May 16, 2026, from https://doi.org/10.1016/j.ejca.2013.04.024

Vaccarella, S., Lortet-Tieulent, J., Plummer, M., Franceschi, S., & Bray, F. (2015). Cervical cancer. In H. Gelband et al. *Cancer: Disease control priorities (3rd ed.)*. World Bank Group. https://www.ncbi.nlm.nih.gov/books/NBK343648/

Vali, et.al. (2023). Survival rate of cervical cancer in Asian countries: A systematic review and meta-analysis. *BMC Women's Health, 23, 671*. Retrieved January 11, 2026, from https://link.springer.com/article/10.1186/s12905-023-02829-8?

Wahyuni, Sari., Triyanti, D., Julianti, R., Novitasari Suhaid, D., Mulyati, I., Maya, R. A. A., Ocktariyana, Rahmadaniah, I., Syukur, N.A., Vasra, E., Pramestiyani, M., Pratiwi, A.I., Mawaddah, S., Wati, D.R., Wardani, D.W.K.K., Widowati, L.P., Setyawati, I., Widiyastuti, N. E. (2022). *Ilmu Kebidanan (Konsep, Teori dan Isu)*. Bandung: Media Sains Indonesia.

Walboomers, J. M. M., Jacobs, M. V., Manos, M. M., Bosch, F. X., Kummer, J. A., Shah, K. V., Snijders, P. J. F., Peto, J., Meijer, C. J. L. M., & Muñoz, N. (1999). Human papillomavirus is a necessary cause of invasive cervical cancer worldwide. *Journal of Pathology, 189*(1), 12–19. Retrieved May 16, 2026, from https://doi.org/10.1002/(SICI)1096-9896(199909)189:1<12::AID-PATH431>3.0.CO;2-F

Waller, J., McCaffery, K., Wardle, J., & Hesketh, T. (2004). Beliefs about risk factors for cervical cancer in a British population sample. *Preventive Medicine*, *38(6), 745–753*. Retrieved January 11, 2026, from https://doi.org/10.1016/j.ypmed.2004.01.003

Webb, P., Bain, C., & Page, A. (2017). *Essential epidemiology: An introduction for students and health professionals (3rd ed.)*. New York, USA: Taylor & Francis.

Winer, et.al. (2006). Condom use and the risk of genital human papillomavirus infection in young women. *New England Journal of Medicine, 354(25), 2645–2654*. Retrieved January 11, 2026, from https://doi.org/10.1056/NEJMoa053284

World Health Organization. (2024). *Human papillomavirus and cancer*. Retrieved January 11, 2026, from https://www.who.int/news-room/fact-sheets/detail/human-papilloma-virus-and-cancer

World Health Organization. (2025). *Cervical cancer*. Retrieved May 16, 2026, from https://www.who.int/news-room/fact-sheets/detail/cervical-cancer

World Health Organization. (2025). *National launch of human papillomavirus (HPV) immunization expansion*. Retrieved January 11, 2026, from

https://www.who.int/indonesia/news/detail/09-08-2023-national-launch-of-human-papillomavirus-%28hpv%29-immunization-expansion

World Health Organization Classification of Tumours Editorial Board. (2020). *Female genital tumours (5th ed.)*. Lyon, France: International Agency for Research on Cancer.

World Health Organization & United Nations Population Fund. (2024). *WHO, UNFPA commend Indonesia's efforts to eliminate cervical cancer, urge streamlined vaccine strategy and enhanced screening*. Retrieved January 11, 2026, from https://www.who.int/indonesia/news/detail/15-11-2024-who--unfpa-commend-indonesia-s-efforts-to-eliminate-cervical-cancer--urge-streamlined-vaccine-strategy-and-enhanced-screening?

Wu, J., Jin, Q., Zhang, Y., Ji, Y., Li, J., Liu, X., Duan, H., Feng, Z., Liu, Y., Zhang, Y., Lyu, Z., Yang, L., & Huang, Y. (2025). Global burden of cervical cancer: Current estimates, temporal trend and future projections based on the GLOBOCAN 2022. *Journal of the National Cancer Center, 5(3), 322–329*. Retrieved January 11, 2026, from https://doi.org/10.1016/j.jncc.2024.11.006

Zhao, Y., & Zhang, C. (2025). A review on the novelty measurements of academic papers. *arXiv*. Retrieved January 11, 2026, from https://arxiv.org/pdf/2501.17456